

REMARKS

Status of Claims

Claims 1, 4-10 and 15-16 are pending, of which claims 1 and 16 are independent.

Claims 4 and 5 have been amended to correct informalities in claim language and to more clearly define the present subject matter. Claim 11-14 have been cancelled without prejudice or disclaimer of the subject matter. Claims 15 and 16 have been added, which are supported by FIGS. 1, 3 and 5, and paragraphs [0027]-[0029] and [0036] of the specification. Care has been taken to avoid introducing new matter.

Claim Objection

Claim 4 was objected to under 37 CFR 1.75(c), as allegedly being of improper dependent form for failing to further limit the subject matter of a previous claim. The amendment clarifies how the target value of claim 1 is calculated, which further limits the subject matter of claim 1. Thus, Applicants respectfully submit that the amendment made to claim 4 overcomes this objection.

Rejection under 35 U.S.C. § 112, first paragraph

Claim 14 was rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Since claim 14 has been cancelled, this rejection is moot.

Rejection under 35 U.S.C. § 112, second paragraph

Claim 5 was rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. Applicants respectfully submit that the amendment made to claim 5, which provides the antecedent basis for “the dimension,” overcomes this rejection.

Rejection under 35 U.S.C. § 102

Claims 1, 5, 7-10 and 14 were rejected under 35 U.S.C. § 102(b) as being anticipated by Uchiyama (USP 4,813,989). This rejection is traversed for at least the following reasons.

Applicants respectfully remind the Examiner that the factual determination of lack of novelty under 35 U.S.C. § 102 requires the identical disclosure in a single reference of each element of a claimed invention, such that the identically claimed invention is placed into the possession of one having ordinary skill in the art. *Helifix Ltd. v. Blok-Lok, Ltd.*, 208 F.3d 1339, 54 USPQ2d 1299 (Fed. Cir. 2000); *Electro Medical Systems S.A. v. Cooper Life Sciences, Inc.*, 34 F.3d 1048, 32 USPQ2d 1017 (Fed. Cir. 1994). Moreover, in imposing the rejection under 35 U.S.C. § 102, the Examiner is required to specifically identify wherein an applied reference is perceived to identically disclose each feature of a claimed invention. *In re Rijckaert*, 9 F.3d 1531, 28 USPQ2d 1955 (Fed. Cir. 1993); *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481 (Fed. Cir. 1984). There are significant differences between the claimed method and the method disclosed by Uchiyama that would preclude the factual determination that Uchiyama identically describes the claimed method within the meaning of 35 U.S.C. § 102.

Applicants respectfully submit that, at a minimum, Uchiyama fails to disclose that while ***“at least the amount of the exhaust gas from the exhaust portion or the amount of the buffering***

*gas introduced in the buffering gas inlet portion is **feedback-controlled**,* “*at least the other one of the amount of the exhaust gas from the exhaust portion and the amount of the buffering gas introduced in the buffering gas inlet portion is **pattern-controlled** according to a flow rate pattern corresponding to heating positions on the silica glass pipe,*” as recited by claim 1. In rejecting claim 1, the Examiner asserts that the amount of gas from the inlet 8 (the alleged buffering gas) is feedback controlled. If, *arguendo*, the inlet 8 was feedback controlled, the amount of the gas from gas inlet 8 would correspond to the claimed “amount of the buffering gas” and thus the amount of gas exhausted from exhaust port 9 would correspond to the claimed “amount of the exhaust gas.” However, it is clear that in Uchiyama, the amount of exhaust gas exhausted from exhaust port 9 is not controlled by any means.

In this regard, the Examiner asserts that it is inherent that the amount of each gas used in Uchiyama is according to the pattern of everything. The Examiner further asserts that what goes in = the amount deposited + the amount exhausted, and that the amount deposited is controlled (at least in part) by the pattern of flow, and thus the amount of exhausted is controlled. Applicants disagree.

First, since Uchiyama does not disclose, expressly or even inherently, the use of a flow rate pattern corresponding to heating positions of the silica glass pipe, Uchiyama does not [pattern] control the amount of deposited, i.e., the amount of exhaust gas, according to the **flow rate pattern corresponding to heating positions**.

Second, the Examiner’s assertion is incorrect, because change of the inner volume of the glass pipe is not considered. The correct relationship would be “the amount exhausted” = “the amount of material inputted” – “the amount deposited” – “the inner volume increased.” In Uchiyama, during the deposition, the inner volume of the glass pipe changes (e.g., increases).

When the inner volume of the glass pipe increases, the amount of gas staying inside the glass pipe would increase, and thus the amount exhausted would decrease. In Uchiyama, the change of the inner volume is not [pattern] controlled, the amount exhausted cannot be [pattern] controlled.

In contrast, in the present disclosure, “the amount exhausted” is independently controlled and is not eventually determined with “the amount of material inputted” and “the amount of deposited.” The “amount of exhaust” is controlled so as not to vary the inner volume of the glass pipe, thereby obtaining a uniform glass perform. As such, it is clear that Uchiyama fails to disclose *“at least the other one of the amount of the exhaust gas from the exhaust portion and the amount of the buffering gas introduced in the buffering gas inlet portion is **pattern-controlled** according to a flow rate pattern corresponding to heating positions on the silica glass pipe,”* as recited by claim 1.

Based on the foregoing, Applicants submit that since Uchiyama fails to disclose the above identified features within the meaning of 35 U.S.C. § 102, Uchiyama does not anticipate claim 1 or any claims dependent thereon. Accordingly, claim 1 and all claims dependent thereon are patentable over Uchiyama. Thus, it is requested that the Examiner withdraw the rejection of claims 1, 5 and 7-10 under 35 U.S.C. § 102(b).

Rejection under 35 U.S.C. § 103

Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Uchiyama. Applicants traverse. Applicants incorporate herein the arguments previously advanced in traversal of the rejection under 35 U.S.C. § 102(b) predicated upon Uchiyama. Dependent claim

6 is free from the applied art in view of its dependency from independent claim 1. Thus, Applicants respectfully request that the Examiner withdraw the rejection of claim 6.

New Claims

Since new claims 15 depends upon claim 1, claim 15 is patentable over the cited references for at least the same reasons as claim 1. Further, Applicants submit that claim 15 recites that the pattern control is performed by controlling a control unit disposed on a gas line for the corresponding one of the exhaust gas (for example, MFC 117 as shown in FIG. 3) and the buffering gas (for example, MFC 21b as shown in FIGS. 1, 3 or 5) (see also, paragraph [0036] of the specification). It is clear that Uchiyama fails to disclose the use of a control unit as recited by claim 15. Thus, claim 15 is patentable over the cited reference on its own merit in addition to the dependency upon claim 1.

Further, since new claim 16 recites substantially similar limitations as claim 1, claim 16 is patentable over the cited references for at least the same reasons as claim 1. Further, Applicants submit that claim 16 recites “*the pattern-control being performed by utilizing pre-collected data and a calculation pattern for calculating, based on the pre-collected data, an amount of a gas for securing appropriate internal pressure of the silica glass pipe for each heating position*” (see, for example, paragraphs [0027]-[0029] of the specification). It is clear that Uchiyama fails to disclose the above identified features of claim 16. Thus, claim 16 is patentable over the cited reference.

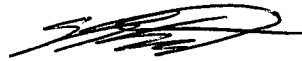
Conclusion

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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